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6. (Amended) A maize plant regenerated from the tissue culture of claim 4, capable of expressing all the morphological and physiological characteristics of inbred line PH6JM, representative seed of which have been deposited under ATCC Accession No. PTA-4579.

8. (Amended) The method of claim 7 wherein said different inbred parent maize plant is the female parent.

11. (Amended) The maize plant, or parts thereof, of claim 2, wherein the plant, or parts thereof, further comprise one or more transgenes.

12. (Amended) A method for producing a maize plant comprising crossing the maize plant of claim 11 with a second plant of another maize line.

13. (Amended) The maize plant, or parts thereof, produced by the method of claim 12.

14. (Amended) A maize plant, or parts thereof, wherein at least one ancestor of said maize plant is the maize plant of claim 2, said maize plant expressing a combination of at least two PH6JM traits which are not significantly different from PH6JM traits when determined at the 5% significance level and when grown in the same environmental conditions, said PH6JM traits selected from the group consisting of: a relative maturity of 114 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, yield, kernel size, stand establishment, resistance to Gray Leaf Spot, resistance to Southern Leaf Blight, resistance to Diplodia Ear Mold, root lodging resistance, and brittle stalk resistance; and wherein said at least two PH6JM traits were not exhibited by other plants utilized in the development of said maize plant.

16. (Amended) The method of claim 15 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

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17. (Amended) A maize plant, or parts thereof, produced by the method of claim 15 wherein the method comprises 2 or less crosses to a plant other than PH6JM or a plant that has PH6JM as a progenitor.

18. (Amended) The maize plant, or parts thereof, of claim 2, further comprising one or more single gene conversions.

19. (Amended) The maize plant of claim 18, wherein at least one single gene conversion is a dominant allele.

20. (Amended) The maize plant of claim 18, wherein at least one single gene conversion is a recessive allele.

21. (Amended) A maize plant, or parts thereof, having all the physiological and morphological characteristics of inbred line PH6JM, representative seed of said line having been deposited under ATCC accession No. PTA-4579.

22. (Amended) The maize plant of claim 21, wherein said plant is manipulated to be male sterile.

23. (Amended) A tissue culture of cells from the plant of claim 21.

24. (Amended) A tissue culture according to claim 23, cells or protoplasts of the tissue culture being from a tissue selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

25. (Amended) A maize plant regenerated from the tissue culture of claim 23, capable of expressing all the morphological and physiological characteristics of inbred line PH6JM, representative seed of which have been deposited under ATCC Accession No. PTA-4579.

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30. (Amended) The maize plant, or parts thereof, of claim 21, wherein the plant, or parts thereof, further comprises one or more transgenes, and wherein the maize plant, or parts thereof, are essentially unchanged from the corresponding plant, or parts thereof, of PH6JM.

31. (Amended) A method for producing a maize plant comprising crossing the maize plant of claim 30 with a second plant of another maize line.

32. (Amended) The maize plant, or parts thereof, produced by the method of claim 31.

33. (Amended) A PH6JM-derived maize plant, or parts thereof, wherein at least one ancestor of said maize plant is the maize plant of claim 2, and wherein the pedigree of said PH6JM-derived maize plant is within 2 or less crosses to a plant other than PH6JM or a plant that has PH6JM as a progenitor.

35. (Amended) The method of claim 34 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

36. (Amended) A maize plant, or parts thereof, produced by the method of claim 34 wherein the method comprises 2 or less crosses to a plant other than PH6JM or a plant that has PH6JM as a progenitor.

37. (Amended) A process for producing inbred PH6JM, representative seed of which have been deposited under ATCC Accession No. PTA-4579, comprising:

- (a) planting a collection of seed comprising seed of a hybrid, one of whose parents is inbred PH6JM said collection also comprising seed of said inbred;
- (b) growing plants from said collection of seed;
- (c) identifying said inbred PH6JM plants;

of said inbred PH6JM plant

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40. (Amended) A method for producing a PH6JM-derived maize plant, comprising:

- (a) crossing inbred maize line PH6JM, representative seed of said line having been deposited under ATCC Accession No. PTA-4579, with a second maize plant to yield progeny maize seed;
- (b) growing said progeny maize seed, under plant growth conditions, to yield said PH6JM-derived maize plant.

41. (Amended) A PH6JM-derived maize plant, or parts thereof, produced by the method of claim 40.

42. (Amended) The method of claim 40, further comprising:

- (c) selfing or sibbing said PH6JM-derived maize plant to yield additional PH6JM-derived progeny maize seed;
- (d) growing said progeny maize seed of step (c) under plant growth conditions, to yield additional PH6JM-derived maize plants;
- (e) repeating the selfing and growing steps of (c) and (d) to generate further PH6JM-derived maize plants.

43. (Amended) The further PH6JM-derived maize plants, or parts thereof, produced by the method of claim 42.

47. (Amended) The maize plant, or parts thereof, of claim 21, further comprising one or more single gene conversions, wherein the maize plant, or parts thereof, are essentially unchanged from the corresponding plant, or parts thereof, of inbred line PH6JM.

48. (Amended) The maize plant of claim 47, wherein at least one single gene conversion is a dominant allele.

49. (Amended) The maize plant of claim 47, wherein at least one single gene conversion is a recessive allele.